



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,032	02/16/2001	Alexander Filatov	40002.4US01	3544
7590	07/14/2004			EXAMINER LE, BRIAN Q
Homer L. Knearl, Esq. Merchant & Gould P.C. P.O. Box 2903 Minneapolis, MN 55402-0903			ART UNIT 2623	PAPER NUMBER
DATE MAILED: 07/14/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/788,032	FILATOV ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Brian Q Le	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 20 May 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 14-28 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 May 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

### **Response to Amendment and Arguments**

1. Applicant's amendment filed May 20, 2004, has been entered and made of record.
2. The Amendments to the Drawings have been considered and accepted.
3. Applicant's arguments with regard to claims 1-13 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding the argument on the bottom of page 9 of the Supplemental Amendment and Response, the Applicant argues that Plessis Reference does not generate character segmentation information in the holistic recognition engine and does not use the character segmentation information from the holistic recognition engine to segment characters in the input string for processing by the analytic recognition engine. First, the Applicant does not clearly state this language in the claim. In addition, since the claim language is broadly claimed and therefore subjected to subjective interpretation. Thus, Plessis teaches the generation of character segmentation information in the holistic recognition engine and use the segmentation information from the holistic recognition engine to segment characters in the input string for processing analytic recognition engine (As interpreted by the Examiner, this is the process of using the holistic method as an input filter for analytical segmentation method/character segmentation process) (Page 644, first column, Holistic driven recognition).

To further assist the Applicant with the guidance with claim language interpretations so that the Applicant can add further/more details limitations from the specification to the claims to overcome the prior arts, the Examiner is presenting MPEP, section 2111, Claim Interpretation; Broadest Reasonable Interpretation as follow: "The court explained that "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite

Art Unit: 2623

different thing from reading limitations of the specification into a claim,’ to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.” The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the “PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant’s specification.”). Thus, even if the invention of Applicant is significant different from the reference, the Applicant must specifically claim to difference/stated the difference in the claim language to avoid the broad interpretation.

Thus, the rejections of all of the claims are maintained.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Plessis et al., “A multi-classifier combination strategy for the recognition of Handwritten Cursive Words”, Document Analysis and Recognition, 1993.

Regarding claim 1, Plessis teaches an apparatus for recognizing a string of characters of hand written text in an image loaded in a computing system (abstract), the apparatus comprising:

Holistic recognition means for recognizing the string of characters as a whole (page 462, 1<sup>st</sup> column, introduction, first 10 lines) and generating a first answer list (holistic filtered list) (page 644, 1<sup>st</sup> column, last paragraph) and a segmentation list (page 462, 1<sup>st</sup> column, introduction, first 20 lines), the first answer list containing a plurality of recognition answers for the string of characters in the image each answer having a confidence value that the answer is correct, the segmentation list containing segmentation information separating each character in the answers (Table 1 and page 644, 2<sup>nd</sup> column, Semi-parallel processing and word fusion);

Analytical recognition means (statistical/analytical method) responsive to the segmentation list for recognizing a plurality of characters individually and generating a second answer list (segmentation list) for the string of characters in the image each answer having a confidence value that the answer is correct (Table 1); and

Means responsive to the first answer list and the second answer list for finding the best recognition answer for the string of characters (FIG. 3 and page 643, 1<sup>st</sup> column, 1<sup>st</sup> paragraph).

Regarding claim 2, Plessis also teaches a computer system (a complete word recognition systems) (page 642, first column, first paragraph) for processing information loaded as cursive text, a method for recognizing the cursive text to provide digital information corresponding to the cursive text. Please refer to claim 1 for further discussion. In addition, it is inherent that one skilled in the art would incorporate the concepts of loading image, constructing segmented image list, translating image to segmented features list and finding the best recognition base on both list to capture the image, to generate the segmented and holistic lists and to find the best recognition

result from both holistic and analytical results. The Applicant is urged to consider the whole reference of Plessis to see the inherency of this discussion.

Regarding claim 3, please refer back to claims 1 and 2 for further discussion.

For claim 4, Plessis discloses the apparatus wherein the string of characters in a series of alphanumeric characters and spaces that make up a word, a sequence of words, one or more numbers, or a mix of words, alphabetic characters and numbers (different character representations) (Abstract, FIG. 1 and FIG. 2).

Referring to claim 5, Plessis teaches the apparatus wherein the means for finding comprises means for matching one or more recognition answers of the first answer list to one or more recognition answers of the second answer list to generate one or more matching answer pairs, each matching answer pair having a associated combined confidence value; and means for evaluating the combined confidence value associated with each matching answer pair to designate a matching answer pair having a highest combined confidence value as the best recognition answer (Table 1; Table 2; page 644, column 2 and page 645, top of column 1).

For claim 6, Plessis indicates the apparatus wherein the combined confidence value associated with each matching answer pair is defined by an average (normalize) of the confidence values of the recognition answer of the first answer list and the recognition answer of the second answer list of the matching answer pair (page 644, 2<sup>nd</sup> column, last 4 lines).

Regarding claim 8, Plessis teaches the apparatus wherein the means for finding comprises means for evaluating a highest confidence value of the first answer list and a highest confidence value of the second answer list against a probability algorithm to identify the best recognition answer for the string of characters (Table 1).

For claim 9, please refer back to claim 4 for further explanation.

For claim 10, please refer back to claim 1 for further explanation.

Regarding claim 11, please refer back to claim 6 and table 1 for further explanation.

Referring to claim 12, Please refer to the discuss of claim 1. In addition, Plessis teaches the matching of one or more possible answers (Lexicon/library of answers) to recognition list to generate matching answer (page 462, 2<sup>nd</sup> column, “Holistic word recognition” and page 463, 1<sup>st</sup> column, 1<sup>st</sup> paragraph).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Plessis et al., “A multi-classifier combination strategy for the recognition of Handwritten Cursive Words”, Document Analysis and Recognition, 1993.

Regarding claim 7, Plessis teaches the apparatus wherein the means for finding comprises means for testing the highest combined confidence value against a next to highest combined confidence value to define an answer separation value (page 644, 1<sup>st</sup> column, “Holistic driven recognition”); and means for rejecting the matching word pair associated with the highest combined confidence value as the best recognition answer if the answer separation value is less than a predetermined threshold value. Further, Plessis indicates the teaching of maintaining a balance of combined confidence value between accepting choices between holistic or analytical

methods with respect threshold hold (determine OK or BAD). Pleassis further teaches that a word is not necessarily selected even if it has a high confidence value in the holistic matching but its segmented confidence value (separation value) is BAD/low/small (less than threshold) (page 644, 1<sup>st</sup> column, “Holistic driven recognition”). Therefore, it would have been obvious for one skilled in the art to further elaborate Plessis’s idea into a finer design choice for rejecting the matching word associated with the highest combined confidence value as the best recognition answer if the answer separation value is less than a predetermined threshold value to increase the recognition rate.

For claim 13, please refer back to claim 7 for the explanation.

### *Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2623

***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL  
July 1, 2004



SAMIR AHMED  
PRIMARY EXAMINER